6LB6

Beam Power Tube

Duodecar Type

For Color-TV Horizontal-Deflection Amplifier Circuits Using 240 V to over 400 V "B" Supplies

ELECTRICAL CHARACTERISTICS – Bogey Values

Heater Voltage, ac or dc	E_h		6.3			V
Heater Current	I_h		2.25			A
Direct Interelectrode Capacitances:[a]						
Grid No.1 to plate	$c_{g1\text{-}p}$		0.44			pF
Input: G1 to (K,G3,G2,H)	c_i		33			pF
Output: P to (K,G3,G2,H)	c_o		18			pF

For the following characteristics, see Conditions below:

Amplification Factor (Triode Connection)[b]	μ	–	–	–	4[c]	
Plate Resistance (approx.)	r_p	–	–	–	6600	Ω
Transconductance	g_m	–	–	–	13400	μmho
DC Plate Current	I_b	–	900[d]	560[d]	105	mA
DC Grid-No.2 Current	I_{c2}	–	110[d]	46[d]	2.0	mA
Cutoff DC Grid-No.1 Voltage for I_b = 1 mA	$E_{c1(co)}$	-125	–	–	-40	V

Conditions:

Heater Voltage	E_h	←	6.3		→	V
Peak Positive-Pulse Plate Voltage[e]	e_{bm}	5000	–	–	–	V
DC Plate Voltage	E_b	–	45	50	150	V
Grid No.3		Connected to cathode at socket				
DC Grid-No.2 Voltage	E_{c2}	110	160	110	110	V
DC Grid-No.1 Voltage	E_{c1}	–	0	–	-20	V

MECHANICAL CHARACTERISTICS

Maximum Overall Length . . . . 4.375 in (111.12 mm)
Maximum Seated Length . . . . 4.000 in (101.6 mm)
Maximum Diameter . . . . 1.563 in (39.7 mm)
Dimensional Outline . . . . JEDEC No.12-90
Envelope . . . . JEDEC T12
Top Cap[f] . . . . Small (JEDEC C1-1 or C1-34)

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Base . . . . . . Large-Button Duodecar 12-Pin (JEDEC E12-74)
Terminal Diagram . . . . .JEDEC 12GJ
Type of Cathode. . . . . Coated Unipotential
Operating Position . . . . .Any

MAXIMUM RATINGS – Design-Maximum Values[g]

For operation as a Horizontal-Deflection-Amplifier Tube in a 525-line, 30-frame system

DC Plate Supply Voltage	E_{bb}	990	V
Peak Positive-Pulse Plate Voltage[h] . .	e_{bm}	7000[k]	V
Peak Negative-Pulse Plate Voltage . .	$-e_{bm}$	100	V
DC Grid-No.3 Voltage	E_{c3}	0	V
DC Grid-No.2 (Screen-Grid) Voltage . .	E_{c2}	200	V
Peak Negative-Pulse Grid-No.1 (Control-Grid) Voltage	$-e_{c1m}$	300	V
Heater-Cathode Voltage:			
Peak	e_{hkm}	±200	V
Average[m]	E_{hk}	100	V
Heater Voltage, ac or dc	E_h	5.7 to 6.9	V
Cathode Current:			
Peak	i_{km}	1100	mA
Average[m]	$I_{k(av)}$	315	mA
Grid-No.2 Input	P_{g2}	5.0	W
Plate Dissipation[n]	P_b	30	W
Envelope Temperature	T_E	200[p]	°C

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance . . . . . . With Feedback-Type High Voltage Regulation	R_{g1}	1.2	MΩ
Grid-No.1-Circuit Resistance . . . . . . With Shunt-Type High Voltage Regulation	R_{g1}	10	MΩ
Grid-No.3-Circuit Resistance	R_{g3}	0	Ω

[a] Measured without external shield in accordance with the current issue of EIA Standard RS-191.

[b] With grid No.3 and grid No.2 connected, respectively, to cathode and plate at socket.

[c] Conditions: $E_b = E_{c2} = 125$ V, $E_{c1} = -25$ V.

[d] This value can be measured by a method involving a recurrent waveform such that the Maximum Ratings of the tube will not be exceeded.

[e] Under pulse-duration condition specified in Footnote h.

[f] Designed to mate with connector of 0.250-inch cap, generally available from your local RCA distributor.

[g] As defined in the current issue of EIA Standard RS-239, unless otherwise specified.

[h] This rating is applicable when the duration of the voltage pulse does not exceed 15% of one horizontal scanning cycle. In a 525-line, 30-frame system, 15% of one horizontal scanning cycle is 10 μs.

[k] Absolute-Maximum Value.

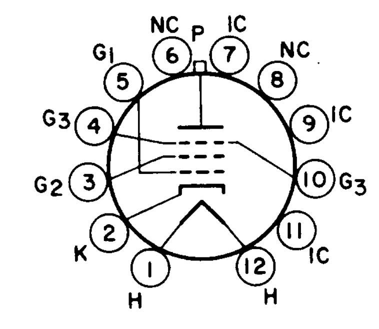
[m] Measured with a DC meter.

[n] An adequate bias resistor or other means is required to protect the tube in the absence of excitation.

[p] This rating is applicable when measurement is made using a thermocouple attached to a 0.1-inch wide phosphor-bronze ring placed at the hottest location on the envelope. A maximum rating of 220°C is applicable to direct thermocouple measurements taken at the hottest point on the envelope surface.

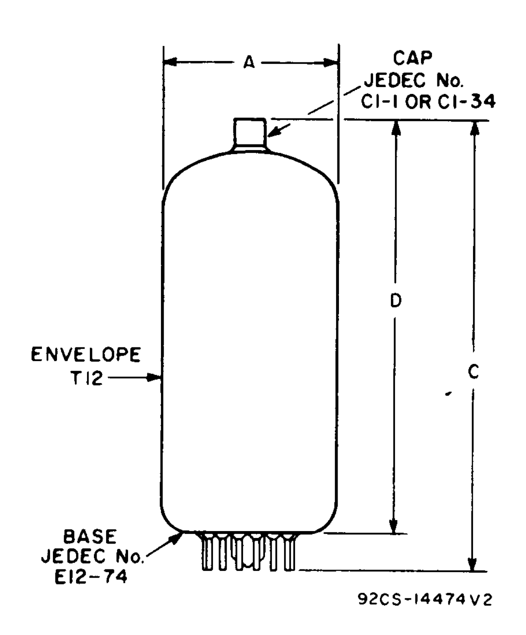
TERMINAL DIAGRAM (Bottom View)

Pin 1 – Heater
Pin 2 – Cathode
Pin 3 – Grid No.2
Pin 4 – Grid No.3
Pin 5 – Grid No.1
Pin 6 – No Internal Connection
Pin 7 – Do Not Use
Pin 8 – No Internal Connection
Pin 9 – Do Not Use
Pin 10 – Grid No.3
Pin 11 – Do Not Use
Pin 12 – Heater
Cap – Plate



JEDEC 12GJ

DIMENSIONAL OUTLINE (JEDEC No.12-90)



DIMENSION	INCHES		MILLIMETERS	
	Min.	Max.	Min.	Max.
A	1.437*	1.563	36.5*	39.7
C	–	4.375	–	111.12
D	3.750	4.000	95.3	101.6
MILLIMETER DIMENSION DERIVED FROM INCH DIMENSION				
* Applies to the minimum diameter except in the area of the seal.				